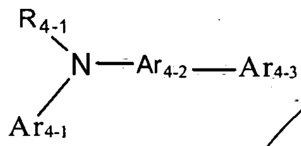
A1 cont'd

 (4)

wherein $Ar_{4-1}$ and $Ar_{4-3}$ each is a substituted or unsubstituted aromatic group, $Ar_{4-2}$ is a substituted or unsubstituted aromatic group, $R_{4-1}$ is a substituted or unsubstituted alkyl group, a substituted or unsubstituted aralkyl group, a substituted or unsubstituted vinyl group, or a substituted or unsubstituted aromatic group, and $Ar_{4-1}$ and $R_{4-1}$ may bond to each other to form a ring.

REMARKS

The claims are 11 and 12 with both claims being independent. Former claims 1-10 have been cancelled without prejudice or disclaimer. The subject matter of claims 4-7 have been added to independent claims 11 and 12 to better define the intended invention. Reconsideration of the claims is expressly requested.

In claim 11, line 2, a phrase has been inserted to make the claim consistent with claim 12, lines 7-9.

Claims 1-10 were rejected over the references cited and for the grounds relied upon on pages 3-8 of the outstanding Office Action. In view of the cancellation of

claims 1-10 these art rejections are deemed moot and will not be argued further.

Claims 1-4, 11 and 12 were rejected as obvious over Pai '102 in view of Borsenberger. Claims 11 and 12 were deemed obvious over Nakata '218 or EP '035 or Ueda '487, each in view of Pai '102 and further in view of Borsenberger. The grounds of rejection are respectfully traversed.

Prior to addressing the grounds of rejection Applicants wish to briefly review certain key features and advantages of the present claimed invention. As noted in the specification portion entitled: Description of the Related Art, semiconductor lasers or other types of lasers having wavelengths near 680 or 800 nm have been primarily used as the laser light sources in electrophotographic apparatus, such as laser printers. However, the spot diameter of the conventional lasers at such longer wavelengths is larger than the spot diameter of lasers at shorter wavelengths. The smaller the spot diameter, the higher the resolution of latent images.

Conventional laser exposure electrophotographic apparatus have practical levels of sensitivity at long wavelength regions from about 700 to 800 nm. Accordingly, conventional charge transport layers typically have high transmittance at such wavelengths and maximum absorption at

shorter wavelengths. In a photosensitive member with a charge generating and charge transport layer, a latent image is formed when laser light passes through the charge transport layer and is absorbed by the charge generating layer to generate charge pairs, one of which is transported to the surface to neutralize a charge thereon. When a charge transport layer is employed having a charge transfer material with a large light absorption coefficient at short wavelengths of 400 to 500 nm, then insufficient light reaches the charge generating layer and insufficient charge pairs are generated such that a low sensitivity is observed.

In addition, use of short wavelength laser light is said to cause degradation of charge transfer material and to further deteriorate a charge transfer material after repeated use.

To meet these problems and to obtain higher resolution, as noted on specification pages 11 and 12 an apparatus can be provided using as the exposure means a semiconductor laser having an oscillation wavelength of 380 to 500 nm in conjunction with a specific charge transport layer having a transmittance of at least 30% for such short wavelength semiconductor laser light. The charge transport layer contains a specific charge transfer material

represented by formulas (1)-(4) having high transmittance (i.e., low absorbance) to short wavelength laser light to allow for sufficient sensitivity.

Pai '102 fails to teach an exposure means comprising a semiconductor laser having an oscillation wavelength of 380 to 500 nm as the exposure light source. Pai also fails to teach a charge transport layer having a transmittance of at least 30% for such semiconductor laser light.

Pai merely discloses that the charge transport layer is substantially transparent to radiation in the wavelength region in which the photoconductor is sensitive. Conventionally, the wavelength region of visible and semiconductor laser light is typically from 680 to 800 nm. In column 1 of Pai it is disclosed that a plate is exposed to electromagnetic radiation such as "light" to selectively dissipate a charge. This is a conventional disclosure of the use of long wavelength light on the order from 700 to 800 nm. Pai does not teach a specific charge transport layer having a transmittance of at least 30% at laser light wavelengths from 380 to 500 nm. To the contrary, Pai teaches use of a broad range of conventional hole-transporting materials free of long chain alkyl carboxylate groups. See Pai, column 10, lines 25-27.

It will be appreciated that Pai fails to teach specific charge transfer materials according to the formulas (1)-(4) with specific light transmittance to short wavelength sources.

Borsenberger does not remedy the defects of Pai. Borsenberger teaches broadly that charge generating crystals are known having maximum sensitivities between 400 to beyond 800 nm. See Borsenberger page 330, last paragraph; page 336, next to the last paragraph and page 337, next to last paragraph, as well as page 338, second paragraph. Thus, there is no particular motivation to select crystals sensitive to short wavelength lasers and to use them in combination with specific charge transport materials having specific transmittance ranges to provide higher sensitivity for electrophotographic copying and the like.

Neither Nakata, EP '035 or Ueda disclose or suggest (1) employing as an exposure means a semiconductor laser generating light at short wavelengths or (2) use of specific charge transporting material having low absorbency for short wavelength coherent light. In Ueda '487, in column 4, lines 60-63 it is disclosed that the arylamine charge transporting compound has a maximum absorption (or minimum transmittance) in the region between 480-550 nm. This means that a minimum

of light will be transmitted through the charge transport layer at that region. This clearly teaches away from employing short wavelength lasers and charge transport materials having high transmittance for such short wavelength radiation.

In EP '035 on page 42, it is disclosed that monochromatic light having a wavelength of 780 nm was employed as the exposure light source. Clearly, this teaches away from utilizing short wavelength light from 380-500 nm. In Nakata, in Example 11, it is disclosed that the light source used was laser light having an emission wavelength of 780 nm. Again, this teaches away from utilizing short wavelength light and employing charge transfer materials having high transmittance to short wavelength light. To the contrary, the teaching in these references, if any, is that the charge transfer material should have high transmittance to longer wavelength light.

Wherefore, Applicants submit that none of the references, whether alone or in combination, disclose or suggest the present claimed invention nor render it unpatentable. Accordingly, it is respectfully requested that the claims be allowed and that the case be passed to issue.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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